Nokia Customer Care
RH-29 Series Transceivers

4 - Service Tools

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List of Required Service Tools

Table 1: List of required service tools for RH-29

Type	Short Description	Code
MJ-21	Module Repair Jig	0770646
SF-10	POS Flash Adapter	0770702
DA-17	Test Adapter for JBV-1	0770701
FLS-4S	POS Flash Prommer & Dongle EMEA	0080541
	POS Flash Prommer & Dongle APAC	0080542
	POS Flash Prommer & Dongle US	0080543
FPS-8	Flash Prommer	0080321
FPS-8C	8 x Parallel Flash Prommer	0080396
SF12	8 MB SRAM for FPS-8 (2 pcs. needed)	0080346
JBV-1	Flash/Test Docking Station	0770298
MJS-74	Soldering Jig	0770464
PKD-1	Software Security Device	0750018
JBT-9	Bluetooth Testbox	0081490
PCS-1	Power Cable	0730012
FLC-2	Power Cable	0730185
CA-5S	DC Cable	0730283
XRS-6	RF cable	0730231
AXS-4	Datacable	0730090
ACF-8	Power Supply	0680032
ACP-8U	Charger US	0675196
ACP-8E	Charger Europe	0675195
XRE-2	RF cable	0730237
DAU-9S	Serial Data Cable	0730108
XCS-4	Modular Cable	0730178
XCS-1	Service Cable	0730218
CA-10DS	Printer Cable (inluded in FPS-8 sales package)	0730298
SRT-6	Universal Opening Tool	0770431

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JBV-1 Docking Station and DA-17 Adapter

The JBV-1 Docking Station has been designed for calibration and software update use.

The DA-17 Docking Station Adapter makes signal connections to the phone. JBV-1 and DA-17 are used as one unit.

JBV-1 & DA-17 main electric functions are:

- adjustable VBATT calibration voltage, current measurement limit voltage ”VCHAR”, current measurement calibration current ”ICHAR”
- adjustable ADC calibration voltage via BTEMP and BSI signal
- BTEMP and BSI calibration resistor
- signals from FBUS to the phone via parallel jig
- control via FBUS or USB
- Flash OK/FAIL indication
- RF alignment via coupler (with JXS-2 box)
- RF testing via coupler
- BT testing via coupler

In calibration mode JBV-1 is powered by external power supply 11-16V DC. In flashing power for the phone can be taken from FPS-8 or external power supply 11-16V DC.

Product code

JBV-1	Docking Station:	0770298
DA-17	Docking Station Adapter:	0770701

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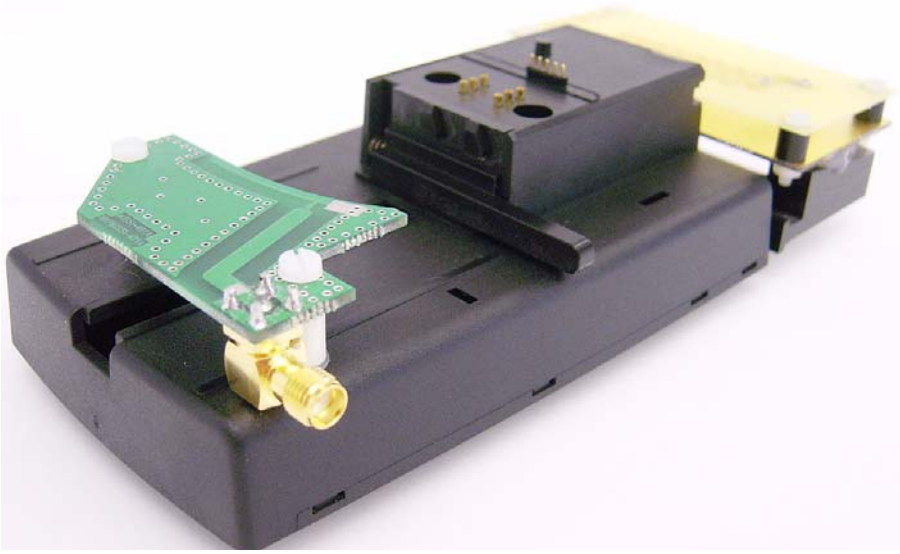
View of DA-17

Figure 1: DA-17



View of JBV-1

Figure 2: JBV-1

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MJ-21 Module Jig

The MJ-21 module repair jig is used for testing and alignment of the engine module's RF and BB part. It also supports user interface install.

SIM interface, MMC interface, BT coupler, RF coupler, headset connector, external speaker and external microphone are implemented.

Product code

MJ-21 Module repair Jig: 0770646

View of MJ-21

Figure 3: MJ-21

*Note: *The nominal supply voltage in regulated mode is 6V and maximum 12V.*

In bypass mode the supply voltage is up to 4.3 V and is secured by an overvoltage protection.

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RJ-43 Soldering Jig

The Soldering Jig RJ-43 is used for soldering and as a rework jig for system module.

Product code

RJ-43 Module Jig: 0780348

View of RJ-43

Figure 4: RJ-43

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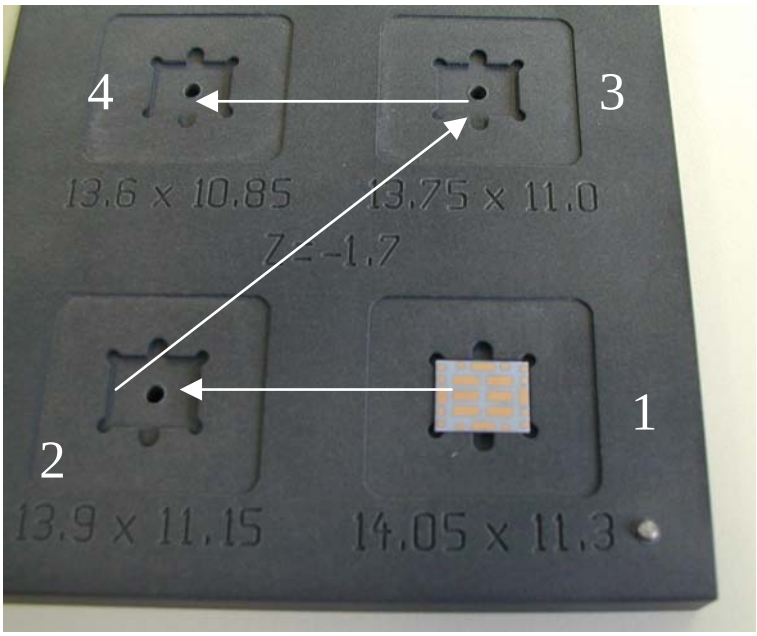
LRK-2 / 3 LGA Component Rework Kits 1 & 2

Type designator	Description	Part code
LRK-2 (0273645) Kit 1		
MJS-76	LGA Re-work Jig	0770417
SES-2	Stencil	0770415
SPS-2	Spreader	0770471
LRK-3 (0273646) Kit 2		
SES-2	Stencil	0770415
SPS-2	Spreader	0770471

Rework procedure

Due to the large mechanical tolerance of the power amplifiers the following procedure is necessary:

1 Put power amplifier into the MJS-76 re-work jig, the PA should be placed in the best fit location, this is determined by firstly placing it in the largest location if this is to large re-position the pa in the next size location, this should be carried out until the best fit location is found.



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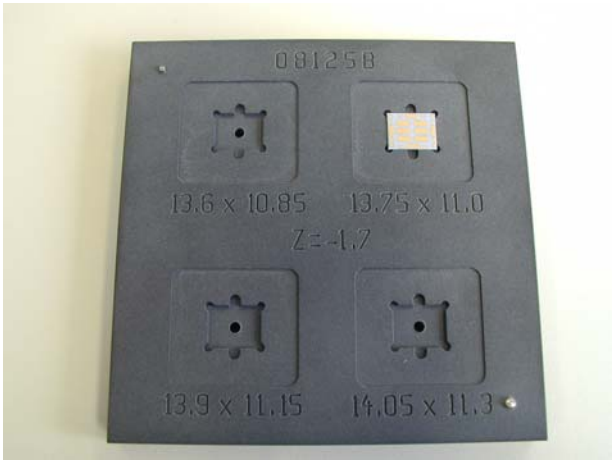
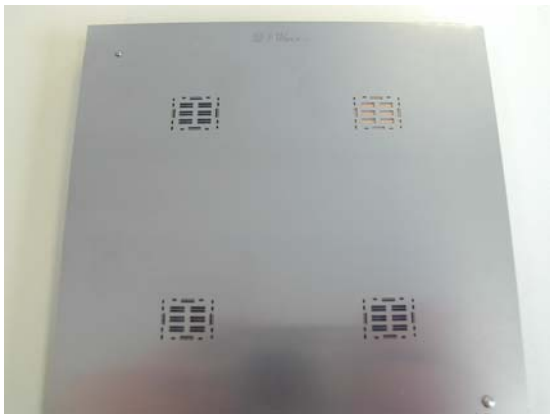
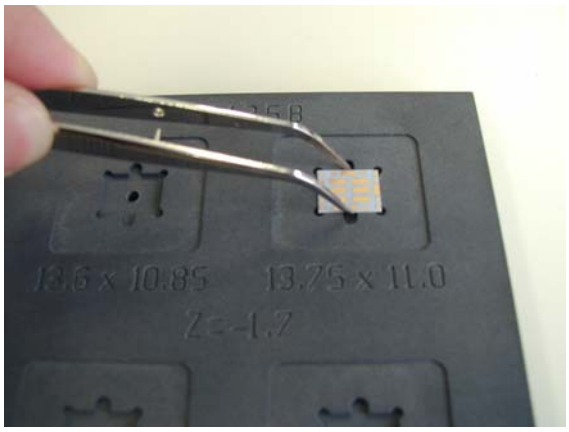
2 Once the best fit location has been found, leave the PA there and put stencil on top of the jig and PA.





3 Put soldering paste on the PA properly.

4 Remove stencil and the PA from the jig.



5 Start soldering process.

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FPS-8 Flash Prommer (Sales Pack)

The Flash Prommer FPS-8 is used with e.g. FLA-21 and JBV-1. Power is supplied to FPS-8 from the Universal Power Supply.

The sales pack includes:

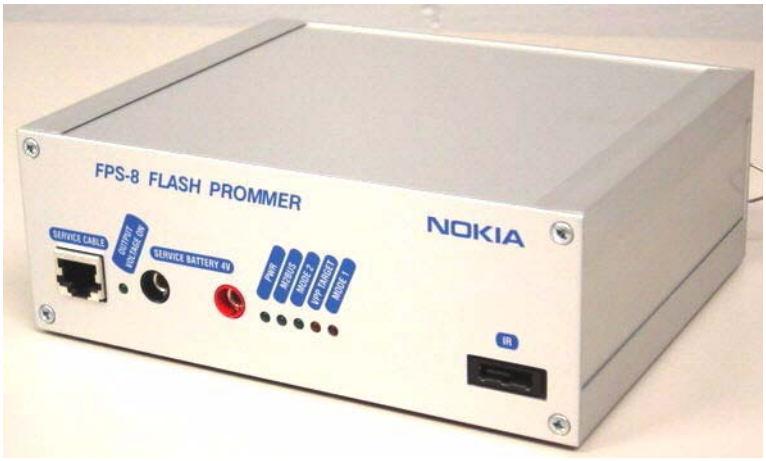
- FPS-8 Flash Prommer	0750123
- FPS-8 Activation Sheet	9359289
- Universal Power Supply	0680032
- AXS-4 Service Cable (D9-D9)	0730090
- Printer cable	0730029

Sales package code

FPS-8 Flash Prommer: 0080321

View of FPS-8

Figure 5: FPS-8



For RH-47 the minimum memory extensions to be installed are:

- 1 x SF13 64MB Flash memory module (0080347)
- 2 x SF12 8MB SRAM module (0080346)

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FPS-8C Parallel Flash Prommer (Sales Pack)

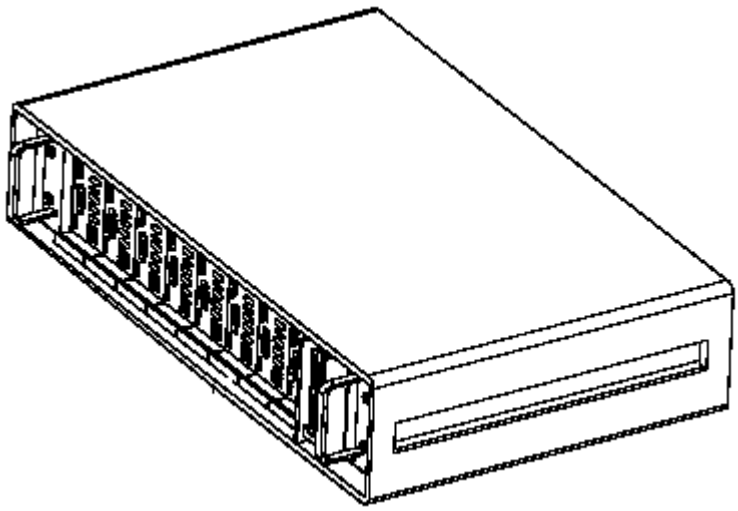
The Parallel Flash Prommer FPS-8C is used with MJF-6 and JBV-1. Flash programming can be done to maximum of 8 phones parallel. FPS-8C consists of eight SF11C programming cards. SF11C card is functionally identical to FPS-8.

Sales package code

FPS-8C Parallel Flash Prommer: 0080396

View of FPS-8C

Figure 6: FPS-8C



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ACF-8 Universal Power Supply

ACF-8 Universal Power Supply is used to power FPS-8. ACF-8 has 6 V DC and 2.1 A output.

Product code

ACF-8 Universal Power Supply:	0680032

View of ACF-8

Figure 7: ACF-8

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SF-10 POS (Point Of Sale) Flash Loading Adapter

The POS Flash Loading Adapter SF-10 is used in place of the phone's normal battery during service, to supply a controlled operating voltage and to connect to pads which are under the SIM card.

Product code

SF-10 POS Flash Loading Adapter: 0770702

View of SF-10

Figure 8: SF-10

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FLC-2 DC Cable

The FLC-2 is used to supply a controlled operating voltage to FLA-48 adapter.

Product code

FLC-2 DC Cable:	0730185

View of FLC-2

Figure 1: FLC-2

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AXS-4 Service Cable

The AXS-4 D9-D9 Service Cable is used to connect two 9 pin D connectors e.g. between PC and FPS-8. Cable length is 2 meters.

Product code

AXS-4 D9-D9 Service Cable: 0730090

View of AXS-4

Figure 2: AXS-4

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XCS-1 Service Cable for FLS-4S

The XCS-1 Service Cable is used to connect FLS-4 to FLA-48.

Product code

XCS-1 Service Cable: 0730218

View of XCS-1

Figure 3: XCS-1

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SW Security Device PKD-1

SW security device is a piece of hardware enabling the use of the service software when connected to the parallel (LPT) port of the PC. Without the dongle present it is not possible to use the service software. Printer or any such device can be connected to the PC through the dongle if needed.

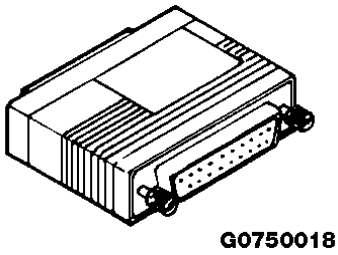
Caution: Make sure that you have switched off the PC and the printer before making connections!

Caution: Do not connected the PKD-1 to the serial port.

Product Code:SW Security Device PKD-1: 0750018

View of SW Security Device

Figure 4: PKD-1



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FLS-4S POS (Point Of Sale) Flash Device (Sales Pack)

FLS–4S is a dongle and flash device incorporated into one package, developed specifically for POS use. The sales package also includes an ACF-8 power supply.

Product code

FLS-4S Sales Pack – Europe/Africa	0080541
FLS-4S Sales Pack –APAC	0080542
FLS-4S Sales Pack –Americas	0080543

View of FLS-4S

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PCS-1 Power Cable

The PCS-1 Power Cable (DC) is used to connect e.g. JBV-1 or MJS-31 to FPS-8.

Product code

PCS-1 Power Cable: 0730012

View of PCS-1

Figure 5: PCS-1

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DAU-9S MBUS Cable

The MBUS Cable DAU-9S has a modular connector, and is used with between PC's serial port and e.g. SF-10, MJ-21 or JBV-1.

Product code

DAU-9S MBUS Cable: 0730108

View of DAU-9S

Figure 6: DAU-9S

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XCS-4 Modular Cable

XCS-4 is a shielded cable (one specially shielded conductor) modular cable for flashing and service purposes.

Product code

XCS-4 Modular Cable:	0730178

View of XCS-4

Figure 7: XCS-4

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CA-5S DC Cable

The DC cable CA-5S is used to connect the JBV-1 to the phone for Energy Management calibration and related tests.

Product code

CA-5S DC cable:0730203

View of CA-5S

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XRS-6 RF Cable

RF cable to connect e.g. MJ-21 or DA-17 to RF measurement equipment. SMA to N-Connector.

Product code

XRS-6 RF cable:0730231

View of XRS-6

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JBT-9 BT Box

The JBT-9 test box is a generic device to perform Bluetooth Bit Error Rate testing. An ACP-8x charger is needed in addition.

Product code

JBT-9 BT Box sales pack:0081490

Consists of:

- JBT-9 test box 0770336
- SMA stub antenna 066P056
- Installation and warranty information 9360613

View of JBT-9

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ACP-8x Charger

The charger is used as power supply for the JBT-9 box.

Product code

ACP-8U charger US:0675196

ACP-8E charger Europe:0675165

View of ACP-8E

The figure below is an example of an ACP-8x charger, namely ACP-8E.

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ADS-7 RF Cable

RF cable to connect e.g. DA-17 or MJ-21 to RF equipment for testing. 0.9 m SMA male to BNC male connector.

Product code

ADS-7 RF cable:0730261

View of ADS-7

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SCT-10 RF Cable

RF cable to connect e.g. DA-17 or MJ-21 to RF equipment for testing. 1.5 m SMA male to BNC male connector.

Product code

SCT-10 RF cable:00730207

View of SCT-10

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XRE-2 RF Cable

RF cable to connect e.g. DA-17 or MJ-21 to RF equipment for BT testing to JBT-9. 1 m SMA male to SMA male connector.

Product code

XRE-2 RF cable:0730237

View of XRE-2

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JXS-2 Shielded RF Box

Shielded box designed to be used in combination with DA-17 and JBV-1

Product code

JXS-2 Shielded box:0770673

View of JXS-2 (with installed DA-17)

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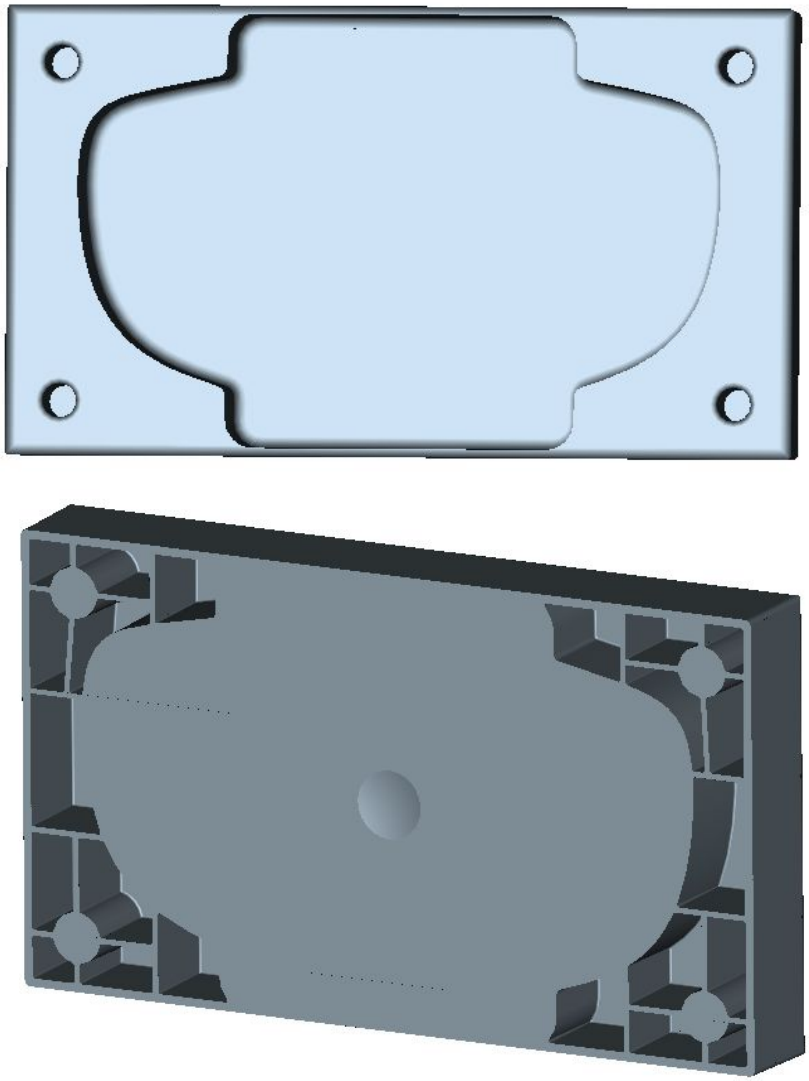
SS-33 Opening Tool

SS-33 is an easy to use opening tool for RH-29 and RH-47 A-covers. This was developed on regions' request. The tooling cost is not paid by programs and has to be refunded in initial produced volumes.

Product code

SS-33 Opening Tool: 0780340

View of SS-33 Opening Tool



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Instructions on the usage of SS-33

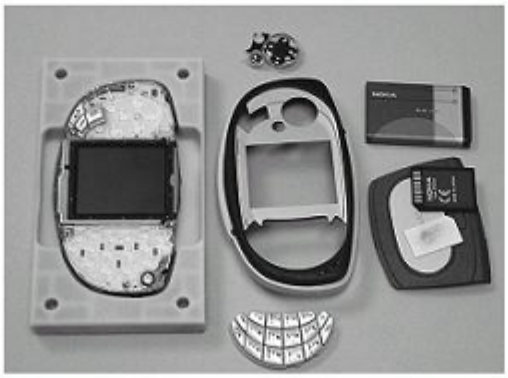
1. Remove battery cover

2. Remove battery, SIM and MMC card if necessary

3. Put device onto the jig and press down keymats with fingers

4. B-cover, engine board with centreframe will fall down

5. Now you can take away A-cover and keymats from engine for further actions.



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SK-10 Coupler Kit (Bluetooth)

SK-10 consists of SA-32 GSM coupler for GSM900/1800 testing and also the GSM alignment to GSM850/1900 bands as well as the SA-52 BT coupler for BT testing with DA-17.

Both couplers (one each) and an assembly instruction is included in the sales package.

Product code

SK-10 Coupler Kit (Bluetooth): 0080986

SA-32 GSM RF Coupler

Product code

SA-32 GSM RF Coupler: 0770753

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